

# **[METHOD FOR HARDWARE REDUCTION IN ECHO CANCELLER AND NEAR-END CROSSTALK CANCELLER]**

## **Abstract of Disclosure**

The present invention provides a method for hardware reduction in the echo canceller and the near-end crosstalk canceller. The method applies an  $N$  ( $N$  is a positive integer) times divide frequency sampling operation onto the input data list of the echo canceller first (and the near-end crosstalk canceller). Then, it applies an  $N$  times multiply frequency sampling operation onto the output data list of the echo canceller (and the near-end crosstalk canceller) to generate a multiplied frequency data list. Afterwards, a low pass filter operation is applied to the multiplied frequency data list to generate a low pass data list to eliminate the echo signal (and the near-end crosstalk signal). The present invention reduces the number of the taps in the echo canceller and the near-end crosstalk canceller by using the digital signal process technique. Therefore, the area of the whole communication IC occupied by the echo canceller and the near-end crosstalk canceller can be reduced.

## Figures

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